

ABSTRACT OF THE DISCLOSURE

The present invention provides a semiconductor element comprising a semiconductor junction composed of silicon-based films, the element being

5 characterized in that at least one of the silicon-based films contains a microcrystal, and microcrystal located in at least one interface region of the silicon-based films containing the microcrystal has no orientation property. Further, the present

10 invention provides a semiconductor element comprising a semiconductor junction composed of silicon-based films, wherein at least one of the silicon-based films contains a microcrystal, and the orientation property of the microcrystal in the silicon-based

15 film containing the microcrystal changes in a film thickness direction of the silicon-based film containing the microcrystal. In order to provide an inexpensive silicon-based film showing excellent performance, the present invention provides a

20 silicon-based film having a shortened tact time, an increased film forming rate, and excellent characteristics, and a semiconductor element including this silicon-based film, and a semiconductor element using this silicon-based film

25 and having excellent adhesion and environmental resistance.